

Remarks

Claim 10 was pending.

Claim 10 is cancelled.

Claims 18-33 are new.

The application now contains claims 18-33.

Claim 18 is supported by original claim 1. It differs from the original claim in that it reflects Applicants' amendments mailed July 11, 2006 and further deletes from the definition of R₂ "-NH₂, -NHC₁-C₄alkyl, -N(C₁-C₄alkyl)₂, a morpholino, piperidino or pyrrolidino residue".

Claims 19 and 20 are supported by original claims 3 and 4; reference to R₁ is deleted.

Claims 21 and 22 are supported by original claim 6; reference to R₁ is deleted.

Claims 23 and 24 are supported by original claims 7 and 8.

Claim 25 is supported by original claim 9. It differs from the original claim in that it reflects Applicants' amendments mailed July 11, 2006 and further deletes from the definition of R₂ "-NH₂, -NHC₁-C₄alkyl, -N(C₁-C₄alkyl)₂, a morpholino, piperidino or pyrrolidino residue".

Claim 26 and 27 are supported by original claim 9, new claim 25 and the specification on page 4 lines 11-13.

Claims 28 is supported by original claim 10 and differs from the original claim in that it reflects Applicants' amendments mailed July 11, 2006 and further deletes from the definition of R₂ "-NH₂, -NHC₁-C₄alkyl, -N(C₁-C₄alkyl)₂, -NHC₂-C₄hydroxyalkyl, -N(C₂-C₄hydroxyalkyl)₂, -N(C₁-C₄alkyl)(C₂-C₄hydroxyalkyl), a morpholino, piperidino or pyrrolidino residue".

Claims 29-32 are supported by original claims 4, 6, 7, 8 and new claim 28.

Claims 33-35 are supported by original claims 11, 12 and 14.

No new matter is added.

Applicants had, in their previous response, canceled all but claim 10 as the Advisory Action of August 1, 2006 stated that claim 10 was allowable. It would have been in Applicants' interest to have such a claim expeditiously allowed. However, in light of the newly cited art and the new rejection of claim 10, a new approach appears advisable and Applicants kindly ask for the Examiner's indulgence in re-introducing a number of previously cancelled claims.

Applicants hasten to point out that all of the present claims are more narrow than the claims as they existed earlier. Applicants believe that all the claims in their present state overcome both the rejections of the most recent Action and the rejections of the previous Actions, which, in light of the re-introduced claims, are no longer moot.

Applicants also ask that the Examiner now enter the Declaration of Rohringer originally submitted but not entered in July of 2006, a copy of which is enclosed herein. In not entering the Declaration, the Examiner stated that the Declaration was not timely as it was submitted after a Final Rejection and was not accompanied by an explanation as to why it was not submitted earlier.

Applicants now offer such a statement.

There had only been one Office Action, dated October 6, 2005, prior to the Final Action. Applicants believed at that time that their response of January 6, 2006 to that first Action fully satisfied the demands of the Action. It was felt that the ability of the claimed mixtures to form stable liquid compositions, particularly in water as shown in the table on page 21 of the Specification, constituted a significant case for allowability and that further data was unnecessary. The Examiner disagreed as explained in subsequent Action made final of April 11, 2006. Applicants thereafter hastened to prepare and submit the Declaration in question assuming (an incorrect assumption as pointed out by the Examiner) that the Declaration would be seen as a natural rejoinder to the first statements directly rejecting their only arguments to date. Applicants at that time did not therefore appreciate the importance of offering a statement to this effect. While acknowledging that the Examiner's actions are and have been consistent with current practice, given the very short prosecution history preceding Final Rejection, Applicants kindly ask that the Examiner enter the Declaration and consider the data therein.

New claims vs Previously cited Art

New claim 28 is supported by original claim 10. Claim 10 had been rejected in the most recent Action under 102(b) as being anticipated by Fringeli, US 3,895,009. Claim 10 had also been rejected in the most recent Action under 103(a) as unpatentable over each of, and the combination of, Schlusser, US 4,946,628; Gold US 3,532,692; Eckstein, EP 0060439 and Fringeli, US 3,895,009.

New claim 28 differs from now cancelled claim 10 in that claim 28 no longer includes as values for R₂ “-NH₂, -NHC₁-C₄alkyl, -N(C₁-C₄alkyl)₂, -NHC₂-C₄ hydroxyalkyl, -N(C₂-C₄hydroxyalkyl)₂, -N(C₁-C₄alkyl)(C₂-C₄ hydroxyalkyl), a morpholino, piperidino or pyrrolidino residue”. That is, the compounds of claim 28 are unsymmetrical compounds of formula 1b wherein one triazine ring must be substituted by an amino acid or an amino acid amide residue from which a hydrogen has been removed from the amino group. The required amino acid or amino acid amide residue of the present claim is not found in any of the cited art.

Applicants therefore respectfully submit that no anticipation by US 3,895,009 exists for the claims in their present form.

Applicants also respectfully submit that the present limitations of claim 28 are not met by the cited art taken individually or in combination.

Applicants therefore kindly ask that the Examiner find claim 28 and dependent claims 29-33 allowable.

Claims 1-9, 11, 12, 14, 16 and 17 had been rejected under 35 USC 103(a) as obvious over Rohringer WO 98/42685, Gold US Pat 3,532,692, Hausermann US Pat 3,272,805 and Thompson WO 96/00220. WO 98/42685 generically discloses unsymmetrical brighteners and the other references disclose symmetrical brighteners. The Examiner finds that would be obvious to combine asymmetrical brighteners with symmetrical brighteners to arrive at the instant invention.

Claims 18-27 and 34-36 are derived from claims 1-9, 11, 12, 14, 16 and 17 but differ in that the new claims no longer include as values for R₂ “-NH₂, -NHC₁-C₄alkyl, -N(C₁-C₄alkyl)₂, a morpholino, piperidino or pyrrolidino residue”.

Applicants herein refer to the previously unentered Declaration under 132 and again ask that the Declaration be entered. The Declaration presents data that clearly demonstrates the superior whitening effect of the mixture of the instant invention over the individual symmetrical components. The data also counter the assumption that symmetrically and asymmetrically substituted derivatives, or combinations of such similar compounds, are necessarily equivalent in their properties as taught by Rohringer WO98/42685 as related by the Examiner, bottom of page 5 and top of page 6 of the Action dated June 11, 2006,

Rohringer teaches the equivalency of the exemplified compounds (symmetric) of those generically claimed including where R1 choices on the two triazine rings are different (asymmetric).

Before directly addressing the data of the Declaration, Applicants offer the following introductory remarks.

WO 98/42685 generically discloses unsymmetrical compounds of formula (1b) of the instant invention, although none are actually documented. However, Example 2 of WO 98/42685, Formula (102), corresponds to a commercial product useful for whitening paper, which is symmetrical compound (104c) of the instant invention (see Declaration).

US 3,532,692 discloses a process for the preparation of bistriazinylaminostilbene fluorescent whitening agents (FWA's). Compound No.1 of the Table therein also corresponds to a commercial FWA, which is symmetrical compound (101a) of the instant invention (see Declaration).

US Patent 3,272,805 discloses 4,4'-triazinylamino stilbene-2,2'-disulphonic acid derivatives wherein the triazine rings are substituted by aniline residues and by alkoxy alkylamine substituents. These latter substituents are a group of formula $-\text{NH}(\text{CH}_2)_{2-3}\text{-O-Y}$, in which Y represents an ethyl or methyl group which do not fall within the scope of the instant claims where the closest corresponding substituents are a group of the general formula $-\text{NH}(\text{C}_1\text{-C}_2\text{alkoxy})$ or $-\text{N}(\text{C}_2\text{-C}_3\text{alkyl})(\text{C}_1\text{-C}_2\text{alkoxy})$. Hence, this document cannot be regarded as closest state of the art, particularly in view of the previous 2 citations.

Similarly, WO 96/00220 also cannot be regarded as closest state of the art. In the compounds of Formula (1) of claim 1 of this citation, Y may represent a phenylamino substituent, whilst the residue corresponding to R₁ of the instant invention is the residue $-N(R)CHR^1Z$, in which R represents hydrogen or phenyl (optionally substituted) and R¹ represents hydrogen or C₁-C₄alkyl (optionally substituted) and Z is an electron-withdrawing group such as -CN or -SO₂₋₃M. However, in compounds of formulae (1a) and (1c) of the instant invention there are no similar alkyl groups substituted by either a -CN or -SO₂₋₃M.

The experiments described in the Declaration therefore compare:

- A. The mixture of compounds of formulae (101a), (104b) and (104c), obtained according to Example 4 of the instant invention;
- B. The compound No.1 of US 3,532,692 which is symmetrical compound (101a) of the instant invention and
- C. The compound of Example 2 of WO 98/42685, which is symmetrical compound (104c) of the instant invention.

The formulations using A, B and C as FWA's were used to coat paper and the amount of FWA needed to obtain a specific whiteness were determined.

Table 2 of the declaration shows that less FWA is needed when the mixture of the instant invention is used, FWA A, than when either of the symmetrical FWA's B or C is used. It can be safely concluded from the data in the declaration that the present mixtures of FWAs outperform individual symmetrical components of the mixture. These results are surprising given the accepted teaching of the art discussed above regarding the equivalency of symmetric and asymmetric FWAs as one would expect there to be no difference in activity between similarly asymmetric and unsymmetric FWA or between an individual FWA and a mixture of similar FWAs.

An unfortunate and unintentional typographical error in the Declaration has been detected. Although the name of Peter Rohringer is spelled correctly in paragraphs number 7 and 8 on the last page of the Declaration, the name is misspelled as "Roohringer" in the first line in page 1. This error was detected just recently. Peter Rohringer resides in Switzerland making it impossible to have a corrected Declaration signed by the date due for response to the Action. If necessary, Applicants will supply a signed corrected Declaration.

In light of the discussion above and the data of the Declaration, Applicants respectfully submit that the present combinations of FWAs show surprising results and that no teaching exists in the art directing one to make the present superior combination of optical brighteners.

Applicants therefore kindly ask that the Examiner, along with claims 28-33, also find claims 18-27 and 34-36 allowable.

In the event that minor amendments will further prosecution, Applicants request that the examiner contact the undersigned representative.

Respectfully submitted,



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Attachments: Copy of Declaration under rule 132